

REMARKS

Claims 1-54 are pending in the application, of which Claims 1, 11, 19, 29, 37, and 47 are independent claims. All claims stand rejected under 35 U.S.C. § 103. The rejections are traversed. In addition, formal drawings have been required and are being filed concurrently with this Reply. New claims are being added to the application.

Regarding Rejections

Claims 1-54 have been rejected under 35 U.S.C. § 103(a) based on U.S. Patent No. 6,338,067 to Baker et al. in view Ma et al., "Efficient Encoding and Rendering of Time-Varying Volume Data." The Office Action fails to establish a prima facie showing of obviousness.

As disclosed and claimed by the Applicants, a series of raw data values (e.g. daily closing stock prices) are stored in a database. For the series of raw data values, a plurality of intervals of adjustment data (e.g. split adjustments) are also stored in the database. By retrieving an adjusted data value from the database, such as to compute a moving average, the intervals of adjustment data are applied to the raw data values. Those calculations are performed in response to the retrieval process by, for example, defining a database view to associate the raw data values with the adjustment data.

In the prior art, one wanting to adjust a stock price for splits would typically need to do custom programming. A series of raw stock prices could be stored in a database along with split data. The split data would normally include the date of the split and the type of split (2-for-1, 1-for-2, etc.). To adjust the stock prices for splits, the raw data would be retrieved and the split data would be iteratively applied. Because multiple splits require applying multiple calculations to the series data, adjusting for splits could be computationally demanding.

By maintaining current adjustment values in the database, the Applicants can transparently retrieve adjusted data values. The cited references do not teach or suggest such a system.

The primary reference, Baker, discusses a product hierarchy database. The database includes a pricing module (208), which includes a company securities record (270). The company securities records (270) is associated with a security type record (272), a security splits history record (274), a security prices buffer record (276), a security prices intraday record (278), and a security prices history record (280). Although stock price and split data are recorded in the database, that data is merely presented to the user.

FIG. 7 of Baker is the only example of using the pricing data. As shown in FIG. 7, the stored time series data values are merely tabulated for display. Baker does not teach or suggest applying stored split data to stock pricing data. Nor does Baker teach or suggest the claimed "adjustment data."

Ma, on the otherhand, discusses encoding and rendering of time-varying volume data. Contrary to the assertion in the Office Action, Ma neither discloses nor suggests interval adjustment data. Furthermore, there is no motivation to combine Ma with Baker.

As described in the Applicants' specification, interval adjustment data is used to adjust the raw data over an interval of the series (e.g. stock price over a period of time). These adjustments are needed to accurately use data over different periods in the series, such as earlier data with later data, because the value of money or the meaning of a share changes over time.

The volume data in the Ma time series is recorded from sensing instruments or generated in simulations. The unit of volume used has the same meaning at the beginning and end of the time series. That is, a liter is always a liter — it always holds the same volume. There is thus no need for interval-based adjustments, and in fact none is disclosed or suggested by Ma.

Even if Ma did disclose interval based adjustments to time-varying volume data, there is no motivation to combine Ma with Baker. As discussed above, Baker stores data related to securities, including certain split data. There is no teaching or suggestion in Baker to do any more with the time series data. One of ordinary skill in the art having knowledge of Baker and wishing to apply the split data to stock pricing data would look to the securities art, not art related to data compression and rendering of volumetric data. Nor does the Office Action suggest any

proper motivation. Any suggestion for combining Ma with Baker results from a key word search based on the Applicants' claims. Such use of hindsight is improper.

The cited references fail to suggest the claimed method of applying interval-based adjustments to data in a database, including "for a series of raw data values, storing a plurality of intervals of adjustment data, including an adjustment value" and "associating the first and second database structures so that the adjustment value is applied in response to retrieval of an adjusted data value from the database." (*See* Claims 1, 19, and 37.) In particular, the cited references fail to suggest "a view of the database" to associate the structures and "using the view to apply the adjustment value to the raw data values during retrieval." (*See* Claims 11, 29, and 47; *see also* Claims 8, 26, and 44.) The dependent claims include further distinguishing limitations.

As such the Office Action fails to establish a *prima facie* showing of obviousness under 35 U.S.C. § 103(a). Reconsideration of the rejections of Claims 1-54 is respectfully requested.

Regarding New Claims

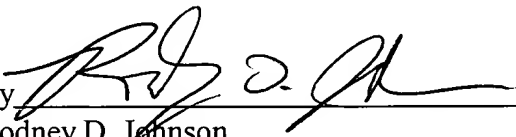
New Claims 55-78 have been added to the application. Each claim includes "the adjustment value for each interval reflecting adjustment values of subsequent intervals" as a limitation. No new matter is being introduced. Acceptance and allowance are requested.

CONCLUSION

In view of the above amendments and remarks, it is believed that all claims are in condition for allowance, and it is respectfully requested that the application be passed to issue. If the Examiner feels that a telephone conference would expedite prosecution of this case, the Examiner is invited to call the undersigned attorney.

Respectfully submitted,

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